

Section 5 — Proton Mathematics

This section establishes the FUNt mathematical framework for the proton. The proton is modeled as a torsional node within the φ - ψ harmonic lattice, governed by torque-shell geometry, φ^n spacing, and hydrogen anchoring ($H = 0$). All nucleon behavior—binding, decay coupling, fusion bridging—emerges from φ -tiered torsional modes described in the Dual-Decad model and the consolidated proton papers.

5.1 Proton as Torsional Node

- Proton occupies φ^0 ground anchor in hydrogen ($H = 0$ constant).
- Mass and torsion arise from the internal φ - ψ harmonic standing wave.
- Proton torque determines shell pressure and nucleon coherence.
- [Insert visual diagram here]

5.2 Proton Torque Equation (Consolidated Papers)

- Torque is treated as a harmonic function of φ^n spacing.
- Proton torsional shells compress or expand based on φ -tier alignment.
- Torque influences nucleon configuration and nuclear stability.
- Hydrogen acts as the reference torque-zero baseline.
- [Insert visual diagram here]

5.3 φ^n Spacing and Proton Shells

- Proton behavior follows a φ -tiered shell structure.
- Proton torsional shells are mapped at $\varphi^0 \dots \varphi^9$ rungs.
- Each mode corresponds to specific nucleon and decay behaviors.
- [Insert visual diagram here]

5.4 Dual-Decad Proton Rung Map

- φ^0 : Hydrogen anchor.
- φ^1 : Initial drift torque; magnetic onset.
- φ^2 : Pre-magnetic shell.
- φ^3 : Magnetic stabilizer.
- φ^4 : Catalytic torsional lever.

- φ^5 : Compression shell.
- φ^6 : Fusion bridge.
- φ^7 : Decay coupler.
- φ^8 : Positron mirror mode.
- φ^9 : Collapse-reset torsional state.
- [Insert visual diagram here]

5.5 Proton Force (PF) — Hydrogen Recycling Law

- $PF \propto dH/dt$ — rate of hydrogen availability change.
- Maps large-scale hydrogen economy (stellar $\rightarrow$ cosmological).
- PF introduces a proton-driven field recycling principle.
- [Insert visual diagram here]

5.6 Proton in Nucleon Structures

- Protons determine positive charge distribution.
- Torsion-anchored geometry sets nuclear shape.
- Neutron-proton spacing follows φ -shell constraints.
- Binding energy correlates with proton torsion alignment.
- [Insert visual diagram here]

5.7 Decay Coupling (ϕ^7 Proton Mode)

- At φ^7 , proton enters 'decay-coupler' resonance band.
- Matches electron φ^7 photon-like state.
- Unifies decay timing across electron–proton dual modes.
- [Insert visual diagram here]

5.8 Proton Positron Mirror (ϕ^8)

- φ^8 corresponds to proton's positron-like configuration.
- Defines antimatter symmetry in the torsional lattice.
- Provides mechanism for proton–positron resonance.
- [Insert visual diagram here]

5.9 Scalar-Field Torsion (ϕ^9)

- Highest rung; defines lattice-reset behavior.
- Proton torsion collapses into scalar transport mode.
- Matches electron ϕ^9 scalar-field transport symmetry.
- [Insert visual diagram here]